DOCUMENT RESUME

ED 380 690 CE 068 684

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TITLE	Improving Job Site Skills Project. Local 343 United Brotherhood of Carpenters & Joiners of America & Construction Labour Relations Association of Manitoba. Final Summary Report.
INSTITUTION	Manitoba Dept. of Education and Training, Winnipeg. Literacy and Continuing Education Branch.
SPONS AGENCY	National Literacy Secretariat, Ottawa (Ontario).
PUB DATE	Aug 94
NOTE	30p.; Developed for the Workplace Education Manitoba Steering Committee. For related documents, see CE 068 682-690.
PUB TYPE	Reports - Research/Technical (143) -- Tests/Evaluation Instruments (160)
EDRS PRICE	MF01/PC02 Plus Postage.
DESCRIPTORS	Adult Basic Education; *Basic Skills; Building Trades; *Carpentry; Communication Skills; Computation; Educational Research; Employment Potential; Foreign Countries; *Job Skills; Job Training; *Literacy Education; Mathematics Skills; Needs Assessment; Reading Skills; *Skill Analysis; Supervisor Qualifications; Supervisory Training; Surveys
IDENTIFIERS	*Manitoba; Workplace Literacy

ABSTRACT

A project of Local 343 of the United Brotherhood of Carpenters and Joiners of America and the Construction Labour Relations Association (CLRA) of Manitoba documented the workplace literacy skills needed by union carpenters on job sites in Manitoba. The following techniques were used: mailed questionnaires to the carpenter members of Local 343 and to employer members of CLRA Manitoba, individual and group interviews, and onsite observations. The workplace literacy skills identified during the project were grouped into those needed by carpenters and those needed by supervisory-level carpenters. Although certain reading and writing skills were needed by all levels of carpenters, the amount of time spent on performing these skills increased proportionately as supervisory responsibilities increased. A similar increase was noted for math skills. Reading skills were grouped into safety, layout, administrative, and other. Computation skills were classed as follows: whole number, fraction, and decimal operations; workplace basics; layout; applied geometry; math-based tools; and other. Communication skills were grouped into written, verbal, nonverbal, and employability skills. Workplace literacy skills needed by supervisory-level carpenters fell into two categories: reading and communications. A table was constructed that identified critical, essential, and important workplace skills. Recommendations were made for two areas: courses and actions by Local 343 and CLRA. (Appendixes include the questionnaire, interview instrument, and employer survey.) (YLB)

ED 380 690

IMPROVING JOB SITE SKILLS PROJECT

Local 343 United Brotherhood of Carpenters & Joiners of America
&
Construction Labour Relations Association of Manitoba

Final Summary Report

by
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Workplace Literacy Consultant

August 1994

U.S. DEPARTMENT OF EDUCATION
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ACKNOWLEDGMENTS

Members of Workplace Education Manitoba Steering Committee (WEMSC) (formerly Basic Education in the Workplace): Rob Despins, Al Bischoff, Sylvia Magyar, Greg Maruca, Pat Moore and Sue Turner, would like to thank the National Literacy Secretariat Human Resources Development for their financial assistance. In particular, we would like to thank Brigid Hayes, Program Consultant with the National Literacy Secretariat.

The WEMSC would also like to thank the Manitoba Government for providing coordination for this project through the Manitoba Literacy and Continuing Education Branch of the Department of Education and Training.

PROJECT TEAM

This project was funded by the Workplace Education Manitoba Steering Committee (WEMSC) and was overseen by a project team. The team consisted of two members from Local 343, Pat Martin and Laurie Todd, two members from the CLRA, Kam Gajdosik and Jerry Wolfe, Sue Turner (Manitoba Literacy and Continuing Education Branch) and Janis McKeag (Workplace Literacy Consultant).

PROJECT DOCUMENTS

This document, *Improving Job Site Skills Project- Final Summary Report* and the other project reports, *Northern Industrial Site Visit, Carpenter Membership Survey,* and *Perceptions of Workplace Literacy Skills of Carpenters in Manitoba - Data Report* are available by contacting Local 343 or WEMSC.

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DEFINITIONS & ABBREVIATIONS

For this project, the following definitions of terms were used.

CTITF: Carpentry Trade Improvement Trust Fund is a joint labour management fund established in 1970, through collective bargaining to promote training in the membership of Local 343.

Apprentice: a person at least 16 years of age, who enters into a written agreement with an employer to learn a designated trade (The Apprenticeship and Trades Qualifications Act of Manitoba).

Certified: indicates the person possesses a provincial or inter provincial journey ticket in carpentry.

Non-Certified: indicates a person with experience in the carpentry field who does not possess a journey ticket.

Foreman: is used to describe a person who carries out supervisory work. It refers to both male and female personnel. It is used in this report as there has been no satisfactory gender neutral term developed which adequately reflects the duties of the position. The terms, group leader, lead hand, crew leader or supervisor have other meanings in this occupation.

Workplace Literacy Skills: the reading, writing, mathematical and communication skills needed to carry out job related duties and tasks.

INTRODUCTION

In the construction industry, carpenters move from job site to job site within the province, and across the country. Additionally, they often perform many different duties of the occupation on the same job site, for example concrete forming and finish carpentry. Regardless of these variations, there are certain common workplace literacy skills needed to carry out job duties and tasks. The *Improving Job Site Skills Project* of Local 343 of the United Brotherhood of Carpenters and Joiners of America and the Construction Labour Relations Association (CLRA) of Manitoba was designed to document the workplace literacy skills (reading, writing, mathematical and communication skills) needed by union carpenters on job sites in Manitoba. The project was funded by the Workplace Education Manitoba Steering Committee (WEMSC).

A variety of data gathering techniques was used in order to meet the main goal of the project - **determining the necessary workplace literacy skills of carpenters on the job site**. The techniques used included: a mail out questionnaire to all carpenter members of Local 343, an employer survey, employer interviews, on site observations and interviews, and focus groups. The results were used to develop program and action recommendations.

BACKGROUND

Through provisions negotiated in the collective agreement, dating back to 1969, the United Brotherhood of Carpenters and Joiners of America, Local 343 and the Construction Labour Relations Association of Manitoba (CLRA) each contributes funds through the check off system into the Carpentry Trade Improvement Trust Fund (CTITF) to "upgrade the quality of carpenters working within the scope of the Agreement".

In the spring of 1992, the CTITF started developing a comprehensive training and upgrading program for the 92/93 season. The year's training program was designed to upgrade the skills of union carpenters by providing courses in door & hardware installation, rigging, supervisory skills, blueprint reading, trade qualification upgrading, scaffolding, welding & cutting, surveying and layout.

While establishing the training program, the CTITF Training Coordinator contacted the Coordinator for Basic Education in the Workplace (WEMSC) to explore the possibility of a workplace literacy project. The union felt a literacy component would be an integral part of the training needs of their membership. Previous informal surveys of contractors had identified communication and literacy skills as potential training areas.

Additional areas of concerns included: how to determine the union membership literacy levels, the level of English required to write Trade Qualification exams, regional jargon, employees' and employers' perceptions of the communication skills needed on the job site and how literacy would fit into the overall training picture.

After preliminary discussions with Pat Martin (Business Agent, Local 343) and Kam Gajdosik (Director of Labour Relations, CLRA Manitoba), WEMSC decided to fund the ***Improving Job Site Skills Project.***

PROJECT GOAL

The primary goal of the Improving Job Site Skills Project was to determine the necessary workplace literacy skills of carpenters on the job site and to develop recommendations for programs to improve these skills.

PROJECT OBJECTIVES

The objectives of the project were:

- Conduct an organization needs assessment (ONA) to determine the workplace literacy tasks performed by carpenters on the job site;
- Develop an instrument to survey carpenters in Manitoba about workplace literacy skills;
- Determine the workplace literacy needs as identified by employers ;
- Develop an instrument to survey employers to assess their perceptions about workplace literacy skills needed by carpenters on the job site;
- Determine the critical, essential, and important workplace literacy skills of carpenters;
- Determine if the use or frequency of use of workplace literacy skills differ for sub groups of carpenters (aboriginal peoples, women, immigrant/ new Canadians, rural versus urban, and north versus south) exist; and
- Make recommendations for workplace program development.

These objectives were revised during the course of the project to reflect the reality of the work situation. Objectives concerning identifying regional differences and reviewing the certification exams were replaced by the objective of determining the emphasis to be placed on workplace literacy skills.

SUMMARY OF ACTION PLAN

The following steps were undertaken:

- Establish the working operation of the Project Team.
- Develop and pilot test a mail out questionnaire for carpenter membership .
- Develop employer mail out questionnaire.
- Conduct on-site observations of job site workplace literacy skills in Winnipeg and Flin Flon.
- Conduct in-person interviews with member carpenters both on site and in union office.
- Conduct interviews with interested employers.
- Analyze results from survey to establish the critical, essential and important job site workplace literacy skills.
- Analyze interviews and on site observations.
- Develop recommendations for workplace programs.
- Develop action recommendations.
- Evaluate project.

DATA GATHERING TECHNIQUES

The techniques used to gather information about the reading, writing, mathematical and communication skills used by union carpenters in Manitoba included:

a) mail out questionnaires to the carpenter members of Local 343 and to employer members of CLRA Manitoba;

b) in-person and group interviews; and

c) on-site observations.

Membership Survey Instrument

The membership mail out survey instrument used for this study was based on the work of McKeag (1991), McKeag (1993), and the BC Construction Industry Skills Improvement Council (1993), with additional information added by Laurie Todd, Training Coordinator, CTITF Training '93. The instrument was pilot tested twice prior to being sent to the carpenter membership. A copy of the final instrument is found in Appendix 1.

A package including a covering letter, (in four languages: English, French, Italian and Portuguese), the survey form and a stamped return envelope was mailed to each active member of Local 343. The return envelopes were coded in a manner similar to Local 343's mail-in voting procedure.

Employer Survey

The employer questionnaire developed for this project was based on a similar survey developed for the Manitoba Canadian Manufacturer's Association. (McKeag, 1993b). A copy of the survey is found in Appendix 3. The survey was sent to the members of the Carpentry Trade Division of the Construction Labour Relations Association (CLRA) of Manitoba.

Interviews

Interviews were conducted to assess the carpenters' perceptions both of the workplace literacy skills needed on the job site and of the need for training. The form used to guide interviews is in Appendix 2. It was adapted from the Structured Job Analysis Interview form used in literacy task analysis of carpenters by the *BC Construction Industry Skills Improvement Council*.

While the project originally called for 45 individual interviews, with a cross section of carpenters, this proved difficult to arrange. To complete this part of the study, a number of group and individual interviews were conducted at various locales: the union office, on the job site and during CTITF courses. On-site and in-office interviews were conducted with 20 carpenters and 5 supervisory level personnel. A total of 18 individuals participated in the focus groups. The combination of these techniques provided a suitable cross representation of Local 343's carpenters membership.

On-site Observations

Job site observations were identified as an important component of the "Job Site Communications Skills" Survey. While important data was gathered through the mail-out questionnaire, field observations provided information on the types of communication used [written, verbal, non-verbal, schematic, body-language, etc.] and the circumstances where the communication skills are used. On-site observations were conducted in Winnipeg at the Louise Street Bridge Renovation, the West End Water Treatment Plant and the Grace Hospital Renovations, and in Flin Flon at the Environmental Upgrade Project - Hudson Bay Mining and Smelting.

WORKPLACE LITERACY SKILLS

The primary goal of this project was to identify the reading, writing, mathematics and communication skills needed by carpenters on the job site. The full findings of this study are found in the three project reports cited on page ii. This summary documents the workplace literacy skills identified during the project.

In reviewing the results, workplace literacy skills could be grouped into two main areas: those needed by carpenters and those needed by supervisory level carpenters (foremen, supervisors, and site superintendents). The workplace literacy skills needed for union job stewards also fell into the second group. While certain reading and writing skills were needed by all levels of carpenters, the amount of time spent on performing these skills increased proportionally as supervisory responsibilities increased. A similar increase was noted for math skills, particularly in the estimating, percentage and costing areas.

The workplace literacy skills identified by the different research techniques utilized in this project are presented on pages 8-11. In this section workplace literacy skills were grouped into related categories. Terms that differed but were similar in concept were grouped together.

A table of the critical, essential and important* workplace skills identified from the membership survey is presented on page 12.

* A workplace literacy skill was deemed:
critical if 90% of the respondents used the skill on a daily or weekly basis at least 80% of the time,
essential if used by 75% of the respondents at least 65% of the time, and
important if 60% of the respondents used it at least 50% of the time on a daily or weekly basis.

JOB SITE READING SKILLS

Reading skills were grouped into the areas of safety, layout, administrative and other. They are not presented in rank order of frequency or importance.

Safety

- Safety Signs/Posters (Signage)
- Installation Directions/Instructions
- Specifications (Books, Materials)
- Forms (Compensation & Safety)
- Safety Regulations (Government & Company)
- Hazard Labels/WHMIS
- Operating Instructions

Layout

- Blueprints (Plans & Details)
- Door/Hardware Schedule
- Symbols
- Drawings/Sketches/Diagrams
- Directional Signs

Administrative

- Memo/Notes
- Work Orders
- Bills/Invoices
- Estimates/Take-Offs
- Schedules (Structural/Finish)
- Charts, Tables, Graphs - Production Schedules
- Checklists, Deficiency Lists
- Code Books
- Purchase Orders
- Permits
- Production Schedule

Other

- Scaffolding Tags
- Coding System for Rebar

JOB SITE MATHEMATICS SKILLS

Computation skills were grouped into the six following categories. They are not presented in rank order of frequency or importance.

Whole Number, Fraction and Decimal Operations

- Addition/Subtraction
- Multiplication/Division
- Quantity (Counting)
- Convert Fractions to Decimals

Workplace Basics

- Measure in Metric/Imperial
- Convert Imperial to Metric
- Elevation Calculations

Layout

- Accuracy/ Tolerance
- Angles
- Slope/Pitch
- Span
- Dimensions: length, width, height, depth, thickness

Applied Geometry

- Area
- Perimeter
- Rectangles
- Triangles
- Right Angles
- Perpendicular
- 3-4-5 Formula
- Circumference/Radius
- Curves/Arcs/Tangents
- Volume

Math-Based Tools

- Level & Rod
- Tape Measure
- Framing Square
- Transit
- Scales/Dials/Gauges on Equipment
- String Line
- Sliding T-Square
- Drill Bits

Other

- Estimate Material (Cost)
- Estimate Time
- Weight
- Loads (Safe Work Load)
- Board Feet
- Temperature
- Pressure
- Percentage

JOB SITE COMMUNICATION SKILLS

Communication skills were grouped into written, verbal and non-verbal categories with an additional category of employability skills. They are not presented in rank order of importance or frequency.

Written

- Leave Memos/Notes/Messages
- Make Drawings/Sketches
- Note Dimensions/Measurements
- Material Lists/Requisition Forms
- Fill in Forms (UIC, Compensation)
- Directional Information e.g. Location
- Complete Attendance/Mileage Forms
- Take Messages
- Write Work Orders
- Write Instructions
- Scaffold tag Completion
- Fill in Time Cards/Sheets
- Deficiency/Deviation Lists
- Write Safety Reports

Verbal

- Give Directions/Instructions
- Ask Questions
- Speak with other Trade Groups
- Discuss work in progress
- Follow Directions
- Listen (Boss, Foreman, Partner)

Non-Verbal

- Use Hand Signals

Employability

- Coordinate Work with Other Trades
- Identify Defects/Damages
- Work with other Trade Groups

SUPERVISORY SKILLS

The workplace literacy skills needed by supervisory level carpenters fell into two main categories: reading and communications. These were skills not generally performed by carpenters on site. The third category for supervisory level carpenters consists of those workplace literacy skills performed by all carpenters but the time demands of these skills increase as supervisory responsibilities increase. None of the skills within the categories are presented in order of importance or frequency.

Job Site Reading Skills

- Code Requirements/Specifications
- Minutes of Meetings: Tailgate, Safety
- Specifications (Books, Materials)
- Contractual Material
- Computer Printouts
- Manuals

Job Site Communications Skills

- Grievances
- Read Safety Notices Out Loud
- Progress Reports
- Write Job Site Diaries/Journals
- Use Telephone/Two-way Radio
- Specifications
- Inspection Sheets
- Take Safety Meeting Minutes
- Weekly Reports
- Take notes on site
- Use Fax, Copier, Typewriter

Increased Workplace Literacy Tasks

- Make Drawings/Sketches
- Leave Memos/Notes/Messages
- Scaffold Tag Completion
- Fill in Forms (UIC, Compensation)
- Estimate Material (Cost)
- Material Lists/Requisition Forms
- Write Instructions
- Deficiency/Deviation Lists
- Fill in Time Cards/Sheets
- Estimate Time
- Percentage

CRITICAL, ESSENTIAL AND IMPORTANT WORKPLACE LITERACY SKILLS

The following tables highlight the critical, essential and important workplace literacy skills needed by carpenters on the job site as identified by the membership survey

Reading Skills

Critical	Essential	Important
Safety Signs/Posters	Hazard Labels/WHMIS	Company Regulations
Blueprints	Drawings/Sketches	Memo/Notes
	Safety Regulations	Operating Instructions
	Symbols	

Mathematical Skills

Critical	Essential	Important
Add/Subtract Numbers	Add/Subtract Decimals	Calculate Perimeter
Use a Tape Measure	Calculate Area	Work with Triangles
Measure in Feet & Inches	Use 3-4-5 Formula	Use Leveling Rod
Multiply/Divide Numbers	Work with Rectangles	Use Survey Stick
Use a Framing Square	Calculate Square Footage	Convert Imperial to Metric
Work with Right Angles	Multiply/Divide Fractions	Calculate Volume
Add/Subtract Fractions	Calculate Angles - e.g. Saws	Convert Fractions to Decimals
Measure in Metric	Work with Perpendicular	Work with Tolerance
Work with Depth of Cut	Count How Many	Use Calculator
	Multiply/Divide Decimals	
	Estimate Material	
	Estimate Time	

Communication Skills

Critical	Essential	Important
Follow Directions	Give Directions	Take Messages
Ask Questions	Identify Defects/Damages	Make Drawings/Sketches
Work with Other Trade Groups	Keep Track of Hours	Speak in Small Groups
	Use Hand Signals	Coordinate Work with Other Trades
		Speak with Outside Groups
		Fill in Forms
		Leave Notes/Memos

CONCLUSIONS

Based on the information gathered in the project, the following conclusions were made.

- Reading, mathematics and verbal and non-verbal communication skills are necessary in the carpentry trade and are important for trade proficiency.
- The demands placed on carpenters' workplace literacy skills increase as the level of responsibility increases.
- With more specialization, new technologies and new materials, the occupation is becoming more paperbound and there is an increasing demand for craft workers to be able to read and write.
- There is a need to develop courses for members to meet technological and changing requirements of the trade.
- Members indicated an interest in improving their literacy and numeracy skills, and taking CTITF courses.
- Increasing health and safety requirements such as on-site signage, participation in safety meetings, reading and signing safety statements, WHMIS, etc., are placing greater demands on occupational reading skills.
- Common trade-related workplace literacy skills need to be included in preparatory training of carpenters.
- Workplace literacy skills need to be taught in a functional context during apprenticeship training.

RECOMMENDATIONS

Based on the information and the conclusions, recommendations were made for two areas. The first area was for the Carpentry Trade Improvement Trust Fund (CTITF) courses. The second area was for actions which could be undertaken by Local 343 and CLRA.

CTITF Course Recommendations

- The CTITF should continue to develop and offer courses to members.
- Workplace literacy skills need to be an integrated part of all CTITF courses.
- An instructor's guide/handbook for integrating workplace literacy skills into CTITF courses should be developed.
- A supervisory (interpersonal) Communications (written and oral) course should be developed.
- CTITF courses should be offered at a variety of times and in variety of methods.
- Course offerings should include:
  - WHMIS
  - Door & Hardware
  - Layout And Blueprint Reading Course
  - Communication Courses
- Instructors in CTITF should be sensitive to differences in learning styles, age, gender and ethnicity.

Action Recommendations

- The apprenticeship curriculum needs to be examined to verify that the necessary workplace literacy skills are included.
- Workshops for Trade/Vocational Instructors, and Apprenticeship Counsellors should be held to increase their awareness for the need to identify and integrate workplace literacy skill development into the practical components of the apprenticeship training.
- Workplace literacy skill development should be an integral part of course curriculum in vocational/industrial courses in secondary schools.
- A section on workplace literacy skills needs to be included in Employment and Immigration Canada's Occupational Analysis Series.
- Applied basic education skills should be taught in the regular school system and reinforced in vocational courses.
- The areas of compulsory certification, apprenticeship program content and current grade level requirements need to be examined in light of identified workplace literacy demands.

OUTCOMES/IMPACTS

In this section a number of outcomes and impacts for this project are listed.

- Increased awareness of workplace literacy skills by carpenters and employers.
- Confirmation of the complexity of workplace literacy skills embedded in job tasks of carpenters.
- Recognition by all involved parties of the need to expand the workplace literacy skills of carpenters.
- Recognition of the need to encourage training institutions such as vocational schools and community colleges to integrate workplace literacy skills into trades training.
- Perception of the project as a proactive and not just a "fix-it" solution to unemployment, because the interviews were voluntary and took place on-site and on company time.

EVALUATION OF THE PROJECT

In this section, the results of the final the project team evaluation meeting are presented. The results are presented in categories.

Limitations of the Study

- The number of job site visits was limited due to the lack of construction work and poor economy.
- While it would have been ideal to have the survey translated into other languages, the cost would have been prohibitive.
- The on-site interviews were limited by the type of construction going on the province at the time of the study. Finishing carpenters were not interviewed on site.

Areas for Improvement

- A method of on-going feedback to participants should be developed. One suggestion is a summary news release to be sent to the members.
- The development of an on-site interview tool which more closely reflects the survey instrument is needed.

Areas of Excellence

The project team felt the following points contributed to the overall success of the project.

- Response of members from different language groups because the covering letter was in more than one language
- The availability of a liaison person to set up interviews, accompany the consultant to site observations.
- The participation of employers and accessibility to job sites and the carpenters working on the site.
- The working partnership between the CLRA and Local 343.
- The input and participation of the members of the project team, for feedback, report reviews, on-going evaluation and direction.
- The sensitivity of the consultant to respect the procedure and the working conditions of the job sites.
- The flexibility of the funding body which allowed the project to shift direction and focus to meet and reflect the reality of the situation.
- The use of a variety of techniques to collect data about the workplace literacy skills of carpenters in Manitoba.

IMPROVING JOB SITE SKILLS QUESTIONNAIRE

PART A - BACKGROUND INFORMATION
Please check (√) the line which bests describes your background.

1. Gender Male ___ Female ___
2. Age 16-24 ___; 25-33 ___; 34-42 ___; 43-50 ___; 50+___
3. First Language English ___; French ___; Other ___ Which One ? _____

4. How many years have you been in the trade? 1-5 __; 6-10 __; 11-15 __; 16-20 __; 20+ __
5. Are you an Apprentice? No ___; Yes ___; Which Level ? 1 ___; 2 ___; 3 ___; 4 ___
6. Do you have Journey Certification ? No ___; Yes ___;
   If Yes, Inter Provincial ___; Province ___ Year ___

7. What is the main type of work you usually do ?
   Concrete Forming ___ Framing ___
   Finish Carpentry ___ Scaffolding ___
   Other ___ What Kind ? _____
8. Where do you usually work ?
   Winnipeg ___; Brandon ___; Thompson ___; Other ___ Where: _____

9. What is the highest Grade you have completed?
   8 ___; 9___; 10 ___; 11 ___; 12 ___; Other ___ Please State _____

10. What types of courses did you take in school ?
    General ___; Vocational ___; Business ___; University Entrance ___
    Other ___ Which Ones? _____

11. Where did you go to school?
    Winnipeg ___; Brandon ___; Thompson ___;
    Other City, Province or Country ___ ; Please State Where: _____

12. Did you take any of the following trades training course ? Check all that apply.
    Vocational Courses in High School ___ Which Ones _____
    Pre Employment Courses ___ Which Ones _____
    Apprenticeship Courses ___ Where _____
    On-The-Job Training ___
    Other ___ What Kind ?_____

13. Have you taken any courses offered by the Union/Construction Labour Relations Association?
    No ___; Yes ___; Which Ones? _____

14. Have you received any training offered by an employer, such as foremen training?
    No ___; Yes ___; What Kind? _____

15. Have you taken any course on your own, such as at night school, community college, local high school or university ?
    No ___; Yes ___; Which Ones? _____

16. Please add any other comments about your schooling or training in the space below.
    _____
    _____

PART B - BASIC JOB SITE SKILLS

The following sections are designed to find out which reading, writing, math and communication skills are needed on the job site. Please answer the questions as if you are working.

EXAMPLE

Please mark an X to tell us if you do that kind of skill and if yes, how often you do it.

On the job do you ?	No	Yes	Daily	Weekly	Monthly	1-2/Year
Read Blueprints	❑	❑	❑	❑	❑	❑
Use a Tape Measure	❑	❑	❑	❑	❑	❑
Leave Memos/Notes	❑	❑	❑	❑	❑	❑

SECTION 1

JOB SITE READING SKILLS

Please place an X to tell us if you do this kind of reading on the job when you are working. (No or Yes). If **Yes**, please mark an X to show how often you do it.

On the job do you read ?	No	Yes	Daily	Weekly	Monthly	1-2/Year
Blueprints	❑	❑	❑	❑	❑	❑
Building Codes	❑	❑	❑	❑	❑	❑
Contracts	❑	❑	❑	❑	❑	❑
Drawings/Sketches	❑	❑	❑	❑	❑	❑
Estimates/Take Offs	❑	❑	❑	❑	❑	❑
Permits	❑	❑	❑	❑	❑	❑
Production Schedules	❑	❑	❑	❑	❑	❑
Specifications	❑	❑	❑	❑	❑	❑

On the job do you use ?	No	Yes	Daily	Weekly	Monthly	1-2/Year
Bills/Invoices	❑	❑	❑	❑	❑	❑
Chart, Tables or Graphs	❑	❑	❑	❑	❑	❑
Checklists	❑	❑	❑	❑	❑	❑
Door/Hardware Schedule	❑	❑	❑	❑	❑	❑
Installation Directions	❑	❑	❑	❑	❑	❑
Memo/Notes	❑	❑	❑	❑	❑	❑
Operating Instructions	❑	❑	❑	❑	❑	❑
Purchase Orders	❑	❑	❑	❑	❑	❑
Time/Log Sheets	❑	❑	❑	❑	❑	❑
Tool/Equipment Instructions	❑	❑	❑	❑	❑	❑
Trade Manuals	❑	❑	❑	❑	❑	❑

On the job do you look at?	No	Yes	Daily	Weekly	Monthly	1-2/Year
Company Regulations	❑	❑	❑	❑	❑	❑
Hazard Labels/WHMIS	❑	❑	❑	❑	❑	❑
Safety Regulations	❑	❑	❑	❑	❑	❑
Safety Signs/Posters	❑	❑	❑	❑	❑	❑
Symbols	❑	❑	❑	❑	❑	❑

Do you read Union Material?	No	Yes	Daily	Weekly	Monthly	1-2/Year
Collective Agreement	❑	❑	❑	❑	❑	❑
Health & Welfare Information	❑	❑	❑	❑	❑	❑
Pension Information	❑	❑	❑	❑	❑	❑
Constitution & Bylaws	❑	❑	❑	❑	❑	❑
Training Material	❑	❑	❑	❑	❑	❑

Please list any other kinds of reading you do on the job site in the space below.

_____

_____

SECTION 2
JOB SITE MATHEMATICS SKILLS

Please place an X to tell us if you do this kind of math on the job when you are working (No or Yes). If **Yes**, please mark an X to show how often you do it.

On the job do you ?	No	Yes	Daily	Weekly	Monthly	1-2/Year
Add or Subtract Numbers	❑	❑	❑	❑	❑	❑
Add or Subtract Fractions	❑	❑	❑	❑	❑	❑
Add or Subtract Decimals	❑	❑	❑	❑	❑	❑
Multiply or Divide Numbers	❑	❑	❑	❑	❑	❑
Multiply or Divide Fractions	❑	❑	❑	❑	❑	❑
Multiply or Divide Decimals	❑	❑	❑	❑	❑	❑

On the job do you figure out ?	No	Yes	Daily	Weekly	Monthly	1-2/Year
Area	❑	❑	❑	❑	❑	❑
Perimeter	❑	❑	❑	❑	❑	❑
Circumference	❑	❑	❑	❑	❑	❑
Volume	❑	❑	❑	❑	❑	❑
Board Feet	❑	❑	❑	❑	❑	❑
Weight	❑	❑	❑	❑	❑	❑
Loads (SWL)	❑	❑	❑	❑	❑	❑
Square Footage	❑	❑	❑	❑	❑	❑
Angles on Miter or Table Saw	❑	❑	❑	❑	❑	❑

On the job do you ?	No	Yes	Daily	Weekly	Monthly	1-2/Year
Measure in Feet & Inches	❑	❑	❑	❑	❑	❑
Measure in Metric	❑	❑	❑	❑	❑	❑
Convert Fractions to Decimals	❑	❑	❑	❑	❑	❑
Convert Imperial to Metric	❑	❑	❑	❑	❑	❑
Count How Many	❑	❑	❑	❑	❑	❑
Estimate Time	❑	❑	❑	❑	❑	❑
Estimate Materials	❑	❑	❑	❑	❑	❑
Calculate Percentage (%)	❑	❑	❑	❑	❑	❑
Use Ratios or Proportions	❑	❑	❑	❑	❑	❑

For your job do you use?	No	Yes	Daily	Weekly	Monthly	1-2/Year
Calculator	❑	❑	❑	❑	❑	❑
Tape Measure	❑	❑	❑	❑	❑	❑
Framing Square	❑	❑	❑	❑	❑	❑
Rafter Tables	❑	❑	❑	❑	❑	❑
Leveling Rod	❑	❑	❑	❑	❑	❑
Survey Stick	❑	❑	❑	❑	❑	❑
Transit	❑	❑	❑	❑	❑	❑
Scales on Equipment	❑	❑	❑	❑	❑	❑
Gauges or Dials	❑	❑	❑	❑	❑	❑

Do you work with?	No	Yes	Daily	Weekly	Monthly	1-2/Year
Right Angles	❑	❑	❑	❑	❑	❑
Perpendicular	❑	❑	❑	❑	❑	❑
Curves/Arcs	❑	❑	❑	❑	❑	❑
Triangles	❑	❑	❑	❑	❑	❑
Rectangles	❑	❑	❑	❑	❑	❑
3-4-5 Formula	❑	❑	❑	❑	❑	❑
Depth of Cut	❑	❑	❑	❑	❑	❑
Tolerance	❑	❑	❑	❑	❑	❑
Temperature	❑	❑	❑	❑	❑	❑
Pressure	❑	❑	❑	❑	❑	❑

Please list any other kinds of math you do on the job site in the space below.

_____

_____

SECTION 3
JOB SITE COMMUNICATION SKILLS

Please place an X to tell us if you do this kind of writing, speaking and listening on the job when you are working. (No or Yes). If **Yes**, please mark an X to show how often you do it.

On the job do you ?	No	Yes	Daily	Weekly	Monthly	1-2/Year
Fill in Forms	❑	❑	❑	❑	❑	❑
Fill in Time Cards	❑	❑	❑	❑	❑	❑
Keep Track of Hours	❑	❑	❑	❑	❑	❑
Write Job Site Diaries	❑	❑	❑	❑	❑	❑
Leave Notes/Memos	❑	❑	❑	❑	❑	❑
Write Work Orders	❑	❑	❑	❑	❑	❑
Write Safety Reports	❑	❑	❑	❑	❑	❑
Write Instructions	❑	❑	❑	❑	❑	❑
Make Drawings/Sketches	❑	❑	❑	❑	❑	❑
Write Letters	❑	❑	❑	❑	❑	❑

On the job do you ?	No	Yes	Daily	Weekly	Monthly	1-2/Year
Follow Directions	❑	❑	❑	❑	❑	❑
Give Directions	❑	❑	❑	❑	❑	❑
Ask Questions	❑	❑	❑	❑	❑	❑
Take Messages	❑	❑	❑	❑	❑	❑
Speak in Small Groups	❑	❑	❑	❑	❑	❑
Speak with Outside People. e.g. Architect, Supplier	❑	❑	❑	❑	❑	❑

For your job do you?	No	Yes	Daily	Weekly	Monthly	1-2/Year
Use the Telephone	❑	❑	❑	❑	❑	❑
Use Fax, Copier or Typewriter	❑	❑	❑	❑	❑	❑
Use Hand Signals	❑	❑	❑	❑	❑	❑
Identify Defects/Damage	❑	❑	❑	❑	❑	❑
Work with Other Trade Groups	❑	❑	❑	❑	❑	❑
Coordinate Work with Other Trade Groups	❑	❑	❑	❑	❑	❑

Please list any other kinds of writing, speaking, or listening you do on the job site .

_____

_____

PART C - PROGRAM FORMAT

If programs or courses for reading, writing and math skills were offered, when would you like them. Please check (√) all that apply.

TIME

Evenings _____ Mon. ___ Tues. ___ Wed. ___ Thurs. ___ Fri. ___
Weekends _____ Mornings _____ Afternoons _____
Other Time _____ Please Specify : _____

SCHEDULE

Once a Week _____ Twice a Week _____
Computer Assisted _____ Correspondence _____
Other _____ Please Specify : _____

WHERE

In a School _____ In the Union Hall _____ On Job Site _____
Other Place _____ Please Specify : _____

TYPE OF COURSE

G. E. D. /UPGRADING ___ ENGLISH SECOND LANGUAGE (ESL) ____
READING ___ WRITING/SPELLING ____
MATH ___ METRIC CONVERSION ____
SPEAKING ___ OTHER ___ Please Specify _____

STRUCTURED INTERVIEW - CARPENTERS

Name: _____

Employed:____ Unemployed: ___ Certified _____ Level _____

1. Main Type of Carpentry Work.

2. How long have you been working in this field ? _____

3. a) What are your main activities. (when you are working)

Framing _____	Forming _____	Roofing _____	Layout _____
Finishing _____	Drywalling _____	Cabinet Making	_____
Scaffolding ____	Insulation _____	Instrument Work e.g. Survey Levels _	

b) What amount of time do spend on each on these duties.

4. a) What tools and equipment do you use?
Hand Tools e.g. Hammer, Plumb Bob, Hand Level, Pencil, Tape, Chisel, etc.
Portable Power Tools: Drill, Skill Saw, Saber Saw, etc.
Stationary Power Tools e.g. Table or Radial Arm Saw
b) How often do you use them?

5. a) What kind of reading do you do for the job? e.g. notes, instructions, blueprints, etc.
b) How often do you do it?
c) How important is it to your work?

6. Do you read safety notices, or bulletin boards on the job site?

7. a) What writing do you do for your job, e.g. memos, time cards, forms, etc. ?
b) How often do you write things?
c) How important is this to your work?

8. a) Do you use things like figures, table, charts, graphs, diagrams, blueprints, drawings, or sketches etc.?
b) How often do you use them?
c) How important are they to your work?

9. a) What math do you have to do for your job? e.g.Addition, Estimating, Measuring
b) How often do you do it?
c) How important is it to your work?

10 a) Do you use math tools for in your work? e.g. Tape measure, Framing Square, etc.
b) How often do you use them?
c) How important are they to your work?

11. a) Do you have to make diagrams, blueprints, sketches or drawings in your work?
    b) How often do you do this?
    c) Why do you do this?

12. What other sources of information do you use in your work?

13. a)What qualifications do you need for this job?
    b) What level of education is needed for this job?
    c) What experience is required for this job?

14. a) How much supervision do you receive?
    b) Do you ever supervise others?

15. How do you decided the order in which to carry out your work?

16. a) Are you responsible for the safety of others?
    b) What does this involve?

17. a) What sorts of equipment, material, tools are you responsible for?
    b) What does this involve?

18. a) How many people do you usually work with?
    b) Do you work with other trades ?

19. Do you use hand signals to communicate on the job? e.g. To Crane Operators.

20 What kind of talking do you do on the job? e.g. give directions, ask questions etc.?
    b) How often do you do it?
    c) How important is it to your work?

21. What kind of listening do you do on the job? e.g. directions.
    b) How often do you do it?
    c) How important is it to your work?

22. Do you ever experience any difficulty in understanding what is being said? Example

23. Do you ever experience any difficulty in making yourself understood? Example

24. Do you experience any problems with Imperial and Metric Measurement?
    Please explain.

25. What courses do you think should be offered through the union or by employers?

26. Do you have any questions, comments or points you would like to add?

EMPLOYER SURVEY

1. Name of Company : _____

2. Contact Person : _____ Telephone : _____

3. Average Number of Carpenters Employed per Year : _____

4. What reading materials are carpenters required to use on the job site ?

Product Schedules	___	Memos	___	Blueprints	___
Forms	___	Diagrams	___	Work Orders	___
Building Code Books	___	Safety Regulations	___		

Other : ___ Please Specify _____

5. What writing is required by carpenters on the job site ?

Complete Forms	___	Reports	___	Memos	___
Work Orders	___	Time cards	___	Drawings	___

Other : ___ Please Specify _____

6. What mathematics are needed to be done by carpenters on the job site ?

Fractions	___	Decimals	___	Metric	___
Estimation	___	Measurement	___	Conversion	___
Calculate : Area	___	Perimeter	___	Circumference	___
Volume	___	Weight	___	Board Feet	___
Angles	___	Length	___	Width	___

Other : ___ Please Specify _____

7. What communication skills are needed by carpenters on the job site?

Listening ___ Speaking ___ Hand Signals ___ English Second Language ___

Other : ___ Please Specify _____

8. What are your perceptions of the reading, writing, mathematics and communications skills needed on the job site? (Use additional paper if necessary.)

_____

_____

9. Do you provide any on site training for reading, writing, math and communication skills? Yes ___ No ___

If Yes, please specify. _____

10. Do you have any other comments regarding reading, writing, math and communication skills needed by carpenters ? (Use additional paper if necessary.)

_____

11. Would you be willing to participate in a in-person interview ?

Yes __ No __ Contact Person (if different from above) _____